

AMENDMENTS TO THE SPECIFICATION:

Please replace paragraph [018] with the following rewritten paragraph:

1 [018] A resistor array that meets the above-mentioned requirements is
2 normally configured in a way that the sensor outputs a specific relation of the
3 mains voltage by way of a voltage divider and, by means of a shunt resistor,
4 converts the current flowing through the main mains line into a corresponding
5 voltage drop.

Please replace paragraph [020] with the following rewritten paragraph:

1 [020] The first processor 16 reads the measured signals, digitalized by
2 the analog-digital analogdigital converter 14, at a pre-determined frequency rate,
3 10 kHz for example in the case of an electronic electricity consumption meter,
4 and computes the real consumption of electricity with the help of the data and
5 instructions stored in the first data memory 19 and in the first program memory
6 18. To this purpose, the data and instructions stored in the first data memory 19
7 and in the first program memory 18 are configured so that the first processor 16
8 can convert the measured signals that represent both the voltage of the mains
9 and the current flowing through the supply line at a given moment, into an
10 electric power consumption value, and can, for example, determine the phase
11 relationship between the current values and the voltage values from the temporal
12 progression of the measured signals. This consumption value, representing the
13 parameter to be measured, can be transferred to the second micro-controller 24
14 by way of the bus system 22. The computing power of the first micro-controller
15 10 must be such as to allow the measured signals to be processed at the
16 required clock rate and in real-time.